**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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| In re Application of: | |
| John W. Pettit | Group Art Unit: 2165 |
| Application No.: 10/735,707 | Examiner: Chih Cheng G. Kao |
| Filed: December 16, 2003 | Confirmation No.: 8831 |
| For: DETECTOR USING CARBON NANOTUBE MATERIAL AS COLD CATHODE FOR SYNTHETIC RADIATION SOURCE | |

# REPLY BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The Appellant respectfully submits this Reply Brief to answer the Response to Argument set forth in the Examiner's Answer mailed December 19, 2007.

In the paragraph spanning pages 23 and 24, the Examiner's Answer appears to confuse obviousness with inherency. The two are not the same, and inherency does not lead to a conclusion of obviousness.

In the first full paragraph of page 24, the Examiner's Answer alleges that since certain advantages argued by the Appellant are not recited in the claims, they may be disregarded. That is incorrect as a matter of law. It is well settled law that an unexpected advantage is one of the secondary considerations of nonobviousness that are to be considered in determining whether an invention would have been obvious over the prior art. *Texas Instruments Inc. v. U.S.*

*International Trade Commission,* 871 F.2d 1054, 1063, 10 U.S.P.Q.2d 1257, 1264 (Fed. Cir. 1989). Therefore, any unexpected advantages flowing from the claimed invention should be considered.

In response to the paragraph spanning pages 24 and 25 of the Examiner's Answer, the Appellant respectfully submits that the Examiner's Answer relies on a straw man. The case law cited in that paragraph of the Examiner's Answer refers to arguments in which a rejection over a combination of references is treated as a rejection over a single one of those references. The Appellant respectfully submits that he has done no such thing. Rather, the Appellant has pointed to certain deficiencies in the applied references showing that the present claimed invention would not have been obvious over the *combination* of references. Also, the assertion that "such advantages will be realized" in the asserted combination of references is based purely on hindsight reconstruction of the invention.

In the first full paragraph of page 25, the Examiner's Answer cites *Ex parte Obiaya* for the proposition that "the fact that Appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious." However, that case law is concerned with "advantage which would flow naturally from following the suggestion of the prior art," not with the same situation as presented in the present claimed invention. The Appellant has cited case law above showing a completely different rule for unexpected advantages.

In the paragraph spanning pages 25 and 26, the Examiner's Answer alleges that controlling voltages as taught by the applied prior art will lead to control and stabilization of current. In response, the Appellant respectfully submits that he has already submitted arguments in the Appeal Brief demonstrating that is not the case.

In the first full paragraph of page 26, the Examiner's Answer points to certain language in the Appeal Brief that is not found in the claims. The Examiner's Answer appears to miss the point of the Appellant's argument. The Appellant discussed the electrode potential that must be dynamically changed and the control signal in the context of showing that the interpretation of *Takahashi et al* given in the Final Rejection is incorrect.

In the "Rebuttal to Argument B" at the bottom of page 26, the Examiner's Answer argues that "the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references." The Appellant never said that it was. Instead, the point of Argument B in the Appeal Brief is that the combination of references asserted in the Final Rejection would have led to an instrument more complicated than the present claimed invention, which thereby offers another unexpected advantage.

In the "Rebuttal to Argument C" at the top of page 27, the Examiner's Answer points to teachings in *Hell et al* that would supposedly have made that reference compatible with *Takahashi et al*. However, the cited passage from column 1 of *Hell et al* discusses what was prior art even to that reference and indeed points out a disadvantage of low-temperature field emitters, namely, that the tube current cannot be rapidly varied without adversely affecting the focusing. The cited passage from column 2 of *Hell et al* has no bearing on the matter at all. The invention disclosed by that reference teaches a heated electron emitter (see, e.g., column 2, lines 6-7, and column 4, lines 19-20). Therefore, the Appellant's argument stands.

In the "Rebuttal to Argument E" on page 27, first paragraph, the Examiner's Answer alleges that *Grodzins et al* teaches measurement and points to the abstract. However, the abstract of the reference says that it is *radiation coherently scattered by an identified volume of suspect*

*material* that is measured. That is not at all the same as performing measurement on a rod-shaped object, as called for in the present claims. Therefore, the Appellant's argument stands.

In the second paragraph of the "Rebuttal to Argument E," the Examiner's Answer alleges that the claims do not recite a weight or thickness measurement device. However, the claims clearly do recite an instrument for performing measurement on a rod-shaped object. As explained above and in the Appeal Brief, *Grodzins et al* does not supply the teaching needed to meet that claim limitation.

For all of the reasons set forth above and in the Appeal Brief, the Appellant respectfully urges reversal of all grounds of rejection of claims 1-95.

Respectfully submitted,

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